



**CTN Test Report**  
**90-005**

**NTB-ID-TM-12-91-08**



**Engineering Drawing Test with  
Audre Incorporated:  
MIL-D-28000 Class I (IGES)**



**Quick Short Test Report**

**April 5, 1991**



**DTIC QUALITY INSPECTED 4**



**Prepared by**  
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DTRC/TM-12-91-08 Engineering Drawing Test with Audre Incorporated MIL-D-28000 Class I (IGES)

# David Taylor Research Center

Bethesda, Maryland 2084-5000

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DTRC/TM-12-91-08 Apr 1991

Systems Department  
Technical Memorandum

Engineering Drawing Test With  
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by

Harry Whittaker

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Technical Publication Transfer Test  
with Audre Incorporated  
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Contents

1 Introduction.....	1
2 Test Parameters.....	2
3 1840A Analysis.....	3
4 IGES Analysis.....	4
5 Conclusion and Recommendations .....	5

## 1. Introduction

### 1.1 Background

The DoD Computer-aided Acquisition and Logistic Support (CALS) Test Network (CTN) is conducting testing of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The CTN is a DoD-sponsored confederation of voluntary participants from industry and government managed by the Air Force Logistics Command.

The primary objective of the CTN is to evaluate the effectiveness of the CALS standards and specifications for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards, formal and informal. Formal tests are large, comprehensive tests that follow a written test plan, require specific authorization from DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, taking only a few hours to set up and execute. They are used by the CTN technical staff to broaden the testing base by including representative samples of the many systems and applications used by the CTN participants. They also allow the CTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and to respond, in a timely manner, to the many requests for help that come from participants. Participants take part voluntarily and are benefited by receiving an evaluation of their latest implementations (interpretations) of the standards, interacting with the CTN technical staff, gaining experience in use of the standards, and developing increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

### 1.2 Purpose

The purpose of the informal test reported in this QSTR was to analyze Audre Incorporated files and its interpretation and use of the CALS standards in transferring technical publication data. Audre Incorporated used its systems to produce data in accordance with the standards and delivered it to the CTN technical staff on a 9-track magnetic tape.

## 2 Test Parameters

Date of  
Evaluation: March 20, 1991

Evaluators: David Taylor Research Center  
Code 125  
Bethesda, Md 20084-5000

Data  
Originator: Audre Incorporated  
10915 Technology Place  
San Diego, California 92127

Data  
Description: Two MIL-D-28000 files were sent with the file  
names; Center.IGS, and Hunter.IGS.

Data  
Source System: Computer Graphics Corporation PTY. LTD.,  
Adelaide, version 4.1

IGES  
Source System: Audre Incorporated's CAD Translator V4.0  
running their IGES version 3.0.

Evaluation  
Tools Used: 1840A - CTN TAPEVAL  
  
IGES - IGES Data Analysis Inc. Parser/Verifier

Standards  
Tested: MIL-STD-1840A  
MIL-D-28000 Class I

### 3. 1840A Analysis

#### 3.1 External Packaging

The tape was not enclosed in a barrier bag or barrier sheet material as required by MIL-STD-1840A, para. 5.3.1.2. The exterior of the envelope was not marked with the required magnetic tape warning label, MIL-STD-1840A, para. 5.3.1.3.

#### 3.2 Transmission Envelope

The nine-track received by David Taylor contained MIL-STD-1840A files. The files were named per the standard conventions.

##### 3.2.1 Tape Formats

The 1840A tape was processed using the Tapetool utility. No errors were encountered while evaluating the contents of the tape labels.

##### 3.2.2 Declaration and Header Fields

No errors were reported within these files.



#### 4 IGES Analysis

Analysis of the two IGES files showed that they correctly represented the graphics of Audre's illustrations, however, they did not conform to 28000 Class I in all respects. The areas of non-conformance were:

1. MIL-D-STD-1840A requires that a statement of conformance to CLASS I along with a creation date and illustration name or number be placed in the start section, this information is missing.
2. All entities were not on layer zero as required by Class I.
3. More than one drawing was defined which is not allowed in Class I.
4. More than one view was defined which is not allowed in Class I.
5. The precision of the radii in the arc is less than Global field 19.
6. Illegal unit flag for Class I specified.

## 5 Conclusions and Recommendations

Technical issues in the IGES file were discovered. The geometric entities and the functionality of the drawing were transferred correctly. The issues were caused by an interpretation discrepancy between Audre and MIL-D-28000 para. 3.2.1.3.1 and Table 1. - ANSI Y14.26M Entity Content of Technical Publication Illustrations Subset. The information in the start section must be complete. Supporting documentation (copies of illustrations) should be submitted with each request for an analysis.